

CLAIMS

1. A grain threshing device characterised by comprising:

a receptacle arranged to receive a portion of crop head, the receptacle having a

5 plurality of longitudinal ribs on inner surfaces thereof;

a shaft rotatably mounted within the receptacle; and

one or more flexible arm members extending from the shaft, the arm members being arranged to strike the longitudinal ribs upon rotation of the shaft;

10 wherein rotation of the shaft and the flexible arm members causes the arm members to strike the crop head in the receptacle to separate the grain from the crop head.

2. A grain threshing device as claimed in claim 1, characterised in that the receptacle comprises a cylindrical vessel and the shaft is rotatably mounted to extend along a central longitudinal axis of the cylindrical vessel.

15 3. A grain threshing device as claimed in claim 1 or 2, characterised in that the flexible arm members are arranged to extend transversely to the shaft.

4. A grain threshing device as claimed in any one of claims 1 to 3, characterised in that flexible arm members comprise flat elongate strips wherein the distal ends of the elongate strips are arranged to strike the ribs in use.

20 5. A grain threshing device as claimed in any one of the preceding claims, characterised in that a removable lid is provided at a first end of the receptacle, through which the crop head is inserted into the receptacle, and a mesh is provided across an open second end of the receptacle, through which the threshed grain exits the receptacle.

25 6. A grain threshing device as claimed in claim 5, characterised in that the mesh is removable such that different mesh sizes may be used for different grain crops.

7. A grain threshing device as claimed in any one of the preceding claims, characterised in that a mounting means is provided having a longitudinal bore within which the shaft is received, the flexible arm members being secured to the mounting means.

5 8. A grain threshing device as claimed in claim 7, characterised in that the mounting means comprises an elongate member having a plurality of transversely extending portions extending outwardly from opposed sides of the elongate member, the flexible arm members being secured to the transversely extending portions.

10 9. A grain threshing device as claimed in 7, characterised in that the mounting means comprises a rectangular plate member, the flexible arm members being secured to a surface of the rectangular plate member.

10. A grain threshing device as claimed in any one of the preceding claims, characterised in that the ribs are arranged at regular angular intervals around the inner surface of the receptacle.

15 11. A grain threshing device as claimed in any one of the preceding claims, characterised in that the ribs have a generally triangular transverse cross section.

12. A portable grain thresher characterised by comprising:

a portable receptacle arranged to receive a portion of crop head, the receptacle having a plurality of longitudinal ribs on inner surfaces thereof;

20 a shaft rotatably mounted within the receptacle, the shaft having an end thereof engageable with a portable drive means; and

one or more flexible arm members extending from the shaft, the arm members being arranged to strike the longitudinal ribs upon rotation of the shaft;

wherein the portable drive means causes rotation of the shaft and the arm members such that the arm members strike the crop head in the receptacle to separate the grain from the crop head.

13. A portable grain thresher as claimed in claim 12, characterised in that the
5 receptacle comprises a cylindrical vessel and the shaft is rotatably mounted to extend along a central longitudinal axis of the cylindrical vessel.

14. A portable grain thresher as claimed in claim 12 or 13, characterised in that the flexible arm members are arranged to extend transversely to the shaft.

15. A portable grain thresher as claimed in any one of claims 12 to 14, characterised
10 in that flexible arm members comprise flat elongate strips wherein the distal ends of the elongate strips are arranged to strike the ribs in use.

16. A portable grain thresher as claimed in any one claims 12 to 15, characterised in that a removable lid is provided at a first end of the receptacle, through which the crop head is inserted into the receptacle, and a mesh is provided across an open second end
15 of the receptacle, through which the threshed grain exits the receptacle.

17. A portable grain thresher as claimed in claim 16, characterised in that the mesh is removable such that different mesh sizes may be used for different grain crops.

18. A portable grain thresher as claimed in claim 16 or 17, characterised in that the shaft is rotatably secured adjacent a first end thereof within a hole in the removable lid
20 and rotatably secured adjacent a second end thereof within an aperture in the mesh.

19. A portable grain thresher as claimed in any one of claims 16 to 18, wherein the second end of the receptacle is provided with a narrowed portion, the narrowed portion being arranged to be received within a collection vessel.

20 A portable grain thresher as claimed in claim 19, wherein locking means are provided on the narrowed portion and an upper edge of the collection vessel to removably secure the receptacle to the collection vessel.

21. A portable grain thresher as claimed in any one claims 12 to 20, characterised in
5 that a mounting means is provided, the mounting means having a longitudinal bore within which the shaft is received and the flexible arm members being secured to the mounting means.

22. A portable grain thresher as claimed in claim 21, characterised in that the mounting means comprises an elongate member having a plurality of transversely
10 extending portions extending outward from opposed sides of the elongate member, the flexible arm members being secured to the transversely extending portions.

23. A portable grain thresher as claimed in 21, characterised in that the mounting means comprises a rectangular plate member, the flexible arm members being secured to a surface of the rectangular plate member.

15 24. A portable grain thresher as claimed in any one of claims 12 to 23, characterised in that the ribs are arranged at regular angular intervals around the inner surface of the receptacle.

25. A portable grain thresher as claimed in any one of claims 12 to 24, characterised in that the ribs have a generally triangular transverse cross section.